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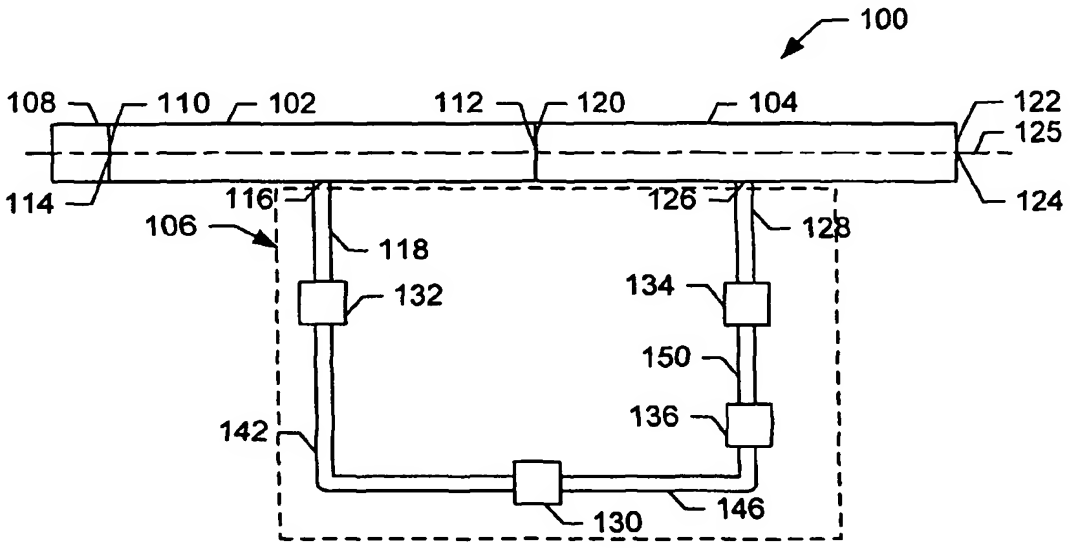
[Continued on next page]

(54) Title: PARTICLE ACCELERATOR HAVING WIDE ENERGY CONTROL RANGE



(57) Abstract: A particle accelerator system (100) for producing a charged particle beam having pulses of charged particles that have different energy levels from pulse to pulse. The system enables independent adjustment of the RF power delivered to first (102) and second (104) accelerating sections thereof without adjustment of the RF power generated by an RF source (106). Such independent adjustment enables the RF power provided to the first accelerating section (102) to be maintained at a level appropriate for optimal particle capturing therein and for producing a tightly, bunched beam of particles having different energy levels from pulse to pulse, while enabling; the RF power provided to the second accelerating section (104) to be varied in order to vary the energy levels of the charged particles of the charged particle beam from pulse to pulse.

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PCT/US03/30548

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : H01J 37/30; H05H 9/00, 9/04
US CL : 250/305, 306, 310, 505.1, 492.1; 315/505, 500
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 250/305, 306, 310, 505.1, 492.1; 315/505, 500

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6,444,990 B1 (MORGAN et al) 3 September 2002 (03,09.2002), col. 2, lines 13-37.	1 and 5
A	US 6,326,861 B1 (VILLA) 4 December 2001 (04.12.2001), col.11, lines 24-47.	1 and 5

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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